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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,799	04/15/2004	Terry Lee Culp	20959/2101	6653

7590 02/20/2007  
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EXAMINER
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WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT	PAPER NUMBER
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1732

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/824,799

Applicant(s)

CULP, TERRY LEE

Examiner

Jeff Wollschlager

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of Group I in the reply filed on December 27, 2006 is acknowledged. The traversal is on the ground(s) that there would be no undue burden because the respective fields of search are closely related. This is not found persuasive because these inventions have acquired a separate status in the art in view of their different classification. Further, because these inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper. Claims 13-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

The requirement is still deemed proper and is therefore made FINAL.

***Drawings***

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings provided do not provide discernable information due to their coloration (i.e. greyness and blackness). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Objections***

Claim 2 is objected to because of the following informalities: The limitation "on the object to be applied" is cumbersome. Since the applying step is only performed on a tooth, the recitation appears to be more properly rendered, "on the tooth". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 1 and 12, the limiting effect of the recitation "colorless" is unclear. It is unclear when the enamel material is considered to be colorless. It is noted that the enamel material ranges generally from white to grey to black and that the disclosed enamel materials have varying color coordinates, opacity and translucency (Example 1). The intended limitation appears to be that the colorless enamel material contains a polymerizable resin, filler and catalyst but does not contain added pigments. However, it is also unclear what fillers are considered to be colorless fillers and what fillers are considered to add color. In this regard, the apparent limitation is that the tooth is matched with one of the three characterized enamels found in Example 1. However, these limitations ( $L^*$ ,  $a^*$ ,  $b^*$ , CR, T) are not recited in claims 1 or

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12 and as such the limiting effect of "colorless" remains unclear. An appropriate amendment to the claims is required to clarify the metes and bounds of the claims.

As to claim 9, the limiting effect of low, medium or high value is unclear. It is unclear when a material has a low, medium or high value. It is noted that any value may be characterized as having a low, medium or high value.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boon (U.S. Patent 4,802,850) in view of Waknine et al. (U.S. Patent 5,348,475).

Regarding claim 1, Boon teaches a dental color matching system wherein a colorless, transparent or translucent, enamel bead is matched with the value shade of a natural tooth. Boon also teaches matching the shade of the tooth, which comprises the dentin layer with other colored beads (Abstract; col. 1, lines 48-57; col. 3, lines 14-36; col. 5, lines 3-8; col. 8, lines 18-60). Boon does not expressly describe the applying and preparation steps as currently claimed. However, Waknine et al. disclose a method of applying and curing dental restorations wherein the restoration is applied intraorally by

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the dentist in a series of layers of appropriate composition and color to the tooth, including a dentin layer and an enamel layer (col. 5, lines 15-67).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to combine the teachings of Boon and Waknine et al. to employ the multiple shade determinations disclosed by Boon with the multiple layered applications of different shades disclosed by Waknine et al. for the purpose as disclosed by Waknine et al. of ensuring complete curing of the restorative dental resin with desired properties (col. 2, lines 1-7) or as disclosed by Boon of providing a better color match (Abstract).

As to claim 2, Waknine et al. disclose layers of material are applied and polymerized (col. 5, lines 15-67).

As to claim 3, Waknine et al. employ light curing (Abstract).

As to claim 6, Waknine et al. disclose employment of a binder (col. 3, lines 15-18).

As to claim 7, Waknine et al. disclose polishing the tooth (col. 5, lines 64-67).

As to claim 8, Waknine et al. disclose trimming the restoration (col. 5, lines 64-67).

As to claim 9, Boon discloses matching an enamel bead that is colorless, transparent or translucent (col. 8, lines 18-60). This material has a low, medium or high value. Further the enamel material employed by Waknine has a low, medium or high value (col. 5, lines 15-67).

As to claims 10 and 11, Waknine et al. disclose materials including a polymerizable resin, fillers and catalysts (col. 3, lines 6-18).

Claims 4, 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boon (U.S. Patent 4,802,850) in view of Waknine et al. (U.S. Patent 5,348,475), as applied to claims 1-3 and 6-11 above, in view of applicant's admitted prior art.

As to claims 4, 5 and 12, Boon in view of Waknine et al. disclose the method of claim 1 as discussed above. Boon does not disclose the steps of cleaning the tooth, removing a portion of the enamel and dentin layers (e.g. decayed material), and reshaping the tooth for cosmetic restoration or applying other special effects. However, as admitted in the instant application, published as U.S. Patent Application Publication 2005/0132928, these are conventional steps that are routinely practiced in the art (paragraphs [0008-0016, 0052-0054]).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to combine conventional steps with the teaching of Boon and Waknine for the purpose of producing a desired dental restoration, as is routinely practiced in the art.

### **Conclusion**

All claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-

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8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JW

Jeff Wollschlager  
Examiner  
Art Unit 1732

February 14, 2007

  
CHRISTINA JOHNSON  
SUPERVISORY PATENT EXAMINER  
2/15/07